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TORONTO

GENERAL METEOROLOGICAL REGISTER

FOR THE YEAR 1895.

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STORAGE

# REMARKS ON THE METEOROLOGICAL RESULTS

## AT TORONTO FOR THE YEAR 1895

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### TEMPERATURE.

The mean temperature of the year 1895 was  $44^{\circ}28$ , being  $0^{\circ}08$  warmer than the average of 55 years and  $2^{\circ}37$  colder than 1894.

The mean temperature of the several months was in six instances above and in six below the average for their respective months, the average excess to the average defect being in the ratio of  $2^{\circ}92$  to  $2^{\circ}71$ . On each of 182 days the mean temperature was above the normal of that particular day and below on 183 days. The mean temperature of each month, with the difference from the normal, was : January,  $21^{\circ}62 + 0^{\circ}82$ ; February,  $16^{\circ}85 - 5^{\circ}74$ ; March,  $24^{\circ}51 - 4^{\circ}31$ ; April,  $43^{\circ}35 + 2^{\circ}43$ ; May,  $55^{\circ}36 + 3^{\circ}28$ ; June,  $67^{\circ}90 + 5^{\circ}61$ ; July,  $66^{\circ}23 - 1^{\circ}41$ ; August,  $65^{\circ}09 - 1^{\circ}17$ ; September,  $60^{\circ}63 + 2^{\circ}03$ ; October,  $43^{\circ}26 - 3^{\circ}16$ ; November,  $36^{\circ}69 + 0^{\circ}60$ ; December,  $29^{\circ}85 + 3^{\circ}57$ . Dividing the year into the ordinary seasons we have for Winter,  $20^{\circ}99$ ; Spring,  $55^{\circ}54$ ; Summer,  $63^{\circ}08$ ; Autumn,  $36^{\circ}60$ . The thermic anomalies differ from the normal temperature proper to the latitude : Winter,  $-14^{\circ}87$ ; Spring,  $-2^{\circ}10$ ; Summer,  $-2^{\circ}25$ ; Autumn,  $-7^{\circ}73$ . On only one month during the year, the observed temperature exceeded the normal value for the latitude, viz. : June,  $3^{\circ}30$ . The mean daily range for the year was  $17^{\circ}26$ , the greatest monthly average occurring in June ( $22^{\circ}20$ ) and the least in November ( $12^{\circ}57$ ). The greatest daily range ( $36^{\circ}9$ ) occurred on the 22nd May, and the least ( $4^{\circ}0$ ) on the first of April. The warmest month relatively was June, estimated by its excess ( $5^{\circ}61$ ) above the normal it was also the warmest absolutely. The coldest absolutely was February ( $16^{\circ}85$ ); it was also the coldest relatively, its mean being  $5^{\circ}74$  below the normal.

The climatic difference was  $51^{\circ}05$ , the warmest day was the 2nd of June, mean temperature,  $80^{\circ}90$ , and the coldest the 6th of February,  $10^{\circ}77$  below zero; but the warmest day relatively was the 25th of December, it being  $24^{\circ}50$  above its proper normal and the coldest the 6th of February, which was  $33^{\circ}6$  below the normal. The average temperature of the warmest and coldest days from former years was  $77^{\circ}73$  and  $2^{\circ}08$  below zero. The highest temperature of the year ( $93^{\circ}4$ ) occurred on the 30th of May, and the lowest ( $21^{\circ}2$  below zero) on the 6th of February. The annual range from these extremes was  $114^{\circ}6$ , being  $14^{\circ}0$  more than 1894 and  $11^{\circ}6$  more than the average annual range. There were 60 instances on which the temperature at the hour of observation was  $20^{\circ}$  above the normal and 43 when a defect of equal amount occurred. The most striking deviations from the daily normal curve of temperature have been as follows :—

## IN EXCESS.

Jan'y 6, Mean Deviation,	13'75	Sept. 11, Mean Deviation,	17'63
" 7, "	14'08	" 20, "	13'82
" 11, "	12'15	" 21, "	18'80
" 21, "	13'85	" 22, "	17'87
Feb. 28, "	12'05	Nov. 7, "	12'97
April 19, "	13'08	Dec 17, "	14'02
May 4, "	12'32	" 18, "	18'03
" 5, "	16'50	" 19, "	20'92
" 6, "	15'50	" 20, "	24'22
" 7, "	13'65	" 21, "	22'17
" 8, "	15'45	" 22, "	17'33
" 9, "	16'65	" 23, "	13'80
" 10, "	16'67	" 24, "	13'92
" 30, "	22'48	" 25, "	24'50
" 31, "	21'70	" 26, "	14'38
June 1, "	21'85	" 28, "	13'08
" 2, "	23'10	" 29, "	14'81
" 3, "	19'20	" 30, "	15'13

## IN DEFECT.

Jan'y 28, Mean Deviation,	16'97	Mar. 15, Mean Deviation,	16'38
Feb. 2, "	15'32	May, 12, "	14'22
" 4, "	13'95	" 14, "	12'67
" 5, "	33'25	" 20, "	15'75
" 6, "	33'60	" 21, "	14'50
" 7, "	30'55	Nov. 20, "	13'35
" 8, "	28'88	" 21, "	17'87
" 9, "	12'55	Dec. 3, "	14'63
Mar. 4, "	20'80	" 8, "	14'17
" 14, "	24'38	" 12, "	20'20

## BAROMETRIC PRESSURE.

The mean height of the Barometer was 29'6171 inches being 0'0019 inches less than the average. The months which showed the greatest deviation from the normal were June and November, '099 in excess; December showing the least, 0'011 in defect. Average deviation without reference to sign was small being only 0'054. The highest reading was 30.240 inches at 8 a.m. of April 11th, and the lowest 28'746 at 6 a.m. of February 21st, giving a range of pressure of 1'494 inches.

The number of days of large abnormal variation in which the average pressure differed by two tenths and upwards from the normal was 118 the greatest number (17) occurring in November, and least (5) in May and September.

## HUMIDITY.

The mean humidity of the year was 75, being 2 per cent below the average, the greatest monthly humidity was 84, in December, and the least, 61, in April, June and July. There were 24 cases of complete saturation at the hour of observation; 8 in January, 3 in February, 2 in March, 1 in April, 1 in May, 1 in August, 1 in September, 2 in November, 5 in December. The least humidity of the year at the hour of observation was 16, on the 15th of May, at 2 p.m.

## CLOUDS.

The extent of the sky clouded was on the average of the year six-tenths of the whole. June was the clearest month and December the most cloudy. During the year there were 48 days completely clouded being 19 less than the average (1894-79), the greatest number (11) occurring in December, none being registered in the months of, June, July and August.

## WIND.

The resultant direction of the wind was S.78°W., showing 24° more southing than 1894 and 41° more southing than the 10 years to 1890. The mean velocity of the wind without reference to direction was 5.60 miles. The most windy month was January, with an average of 8.10 miles per hour, and the least windy was August, with an average of 2.72 miles. The windiest day was January, 27th, average velocity 40.87 miles per hour, and the day of least velocity August, 9th, average velocity 0.67 per hour. The highest velocity in one hour was 64 miles 8 to 9 a.m. of the 31st of December.

## RAIN AND SNOW.

The total depth of rain that fell during the year was 22.531 inches, being 4.873 inches less than the average, and 3.254 more than the rainfall of 1894. The depth of snow, 54.8 inches, was 13.7 inches less than the average, and 17.0 inches more than the snowfall of 1894. November was the most rainy month as to quantity (4.055), and July with reference to the number of rainy days. February was the least rainy month, only some drops having fallen.

The day of greatest rainfall was the 25th of November, when 1.180 inches fell. There was no other day during the year on which over one inch fell.

The heaviest fall of snow in one day was 10.5 inches on the 18th of January. Rain fell on 113 days, being 1 less than the average number and 31 less than 1893. Snow fell on 76 days, being 10 more than the average and 23 more than 1894. There were 106 days on which neither rain nor snow fell; in 1894 the number was 179. The rain occupied 467 hours, and the snow 310 hours in its fall, giving a total of 777 hours, or 32 days and 9 hours when rain or snow was actually falling.

## THUNDER-STORMS.

Of the 23 thunder-storms occurring during the year, the first was on the 7th of May, and the latest on September 25th, 5 in May, 5 in June, 7 in July, 5 in August, 4 in September. The most severe storms were on the 7th of May, 4th of June, 12th and 25th July, 17th and 28th August, and 7th and 18th of September.

## AURORA.

Auroral displays were less numerous than in the previous year. Of the 11 observed, none were of the first class, 1 of the second class, 4 of the third class and 6 of the fourth class. There were 195 nights favourable for observation, the most brilliant displays occurring on the 29th of September, 13th October and 9th November.

## SUNSHINE.

The total duration of bright sunshine during the year was 2150.7 hours; number of hours the sun was above the horizon, 4463.3; ratio of registered to possible, 0.48.

## GENERAL METEOROLOGICAL

## MAGNETICAL OBSERVATORY,

Latitude 43° 39' 4 N. Longitude, 5h. 17m. 34' 65. Elevation

	JAN.	FEB.	MAR.	APRIL.	MAY.	JUNE.	JULY.
Average temperature.....	21° 62	16° 85	24° 51	43° 35	55° 36	67° 90	66° 23
Difference from average (55 years)..	- 0° 82	- 5° 74	- 4° 31	+ 2° 43	+ 3° 28	+ 5° 61	- 1° 41
Thermic anomaly (lat. 43° 40').....	-11° 18	-17° 85	-15° 59	- 6° 85	- 2° 74	+ 3° 30	- 2° 47
Highest temperature.....	42° 2	44° 3	49° 9	69° 1	93° 4	93° 1	90° 0
Lowest temperature.....	- 0° 6	-21° 2	- 1° 6	23° 7	27° 9	45° 8	49° 1
Monthly and annual ranges.....	42° 8	65° 5	51° 5	45° 4	65° 5	47° 3	40° 9
Average maximum temperature...	28° 12	24° 09	32° 47	51° 20	66° 26	78° 95	76° 26
Average minimum temperature...	14° 04	8° 71	15° 71	35° 51	44° 49	56° 66	56° 25
Average daily range.....	14° 08	15° 38	16° 76	15° 69	21° 77	22° 29	20° 01
Greatest daily range.....	25° 6	29° 6	29° 8	35° 7	36° 9	39° 8	29° 7
Average height of bar. at 32° Fah....	29° 5645	29° 5774	29° 6231	29° 6413	29° 6290	29° 6681	29° 5758
Difference from average, 54 years...	-0° 0850	-0° 0647	+0° 0171	+0° 0447	+0° 0544	+0° 0985	-0° 0123
Highest barometer.....	30° 159	30° 079	30° 064	30° 240	29° 964	30° 034	29° 921
Lowest barometer.....	28° 771	28° 746	29° 034	29° 025	29° 097	29° 333	29° 211
Monthly and annual ranges.....	1° 388	1° 333	1° 030	1° 215	0° 867	0° 701	0° 710
Average humidity of the air.....	83	81	75	67	70	67	67
Difference from average.....	0	0	- 3	- 3	0	- 6	- 5
Average elasticity of aqueous vapour. temperature of dew point...	0° 103 19° 0	0° 086 15° 0	0° 104 19° 2	0° 192 33° 5	0° 328 47° 3	0° 455 56° 4	0° 435 55° 1
Average of cloudiness.....	0° 72	0° 63	0° 50	0° 54	0° 43	0° 38	0° 62
Difference from average (41 years)..	- 0° 02	- 0° 06	- 0° 13	- 0° 04	- 0° 14	- 0° 15	+ 0° 13
Resultant direction of wind.....	S 48° W	S 74° W	N 66° W	N 8° E	S 28° W	S 27° W	N 70° W
velocity of wind.....	3° 25	5° 26	3° 25	2° 66	0° 75	0° 22	1° 01
Average velocity (miles per hour)...	8° 10	8° 02	8° 07	6° 43	4° 81	4° 14	3° 88
Total amount of rain in inches.....	1° 070	R	0° 390	1° 455	2° 311	0° 745	2° 490
Difference from average (55 years)..	0° 096	0° 901	1° 041	0° 746	0° 755	2° 173	0° 486
*Number of days of rain.....	4	0	5	9	7	9	13
Total amount of snow in inches.....	35° 8	4° 0	5° 4	0° 6	*	....	....
Difference from average (55 years)..	+18° 78	-13° 26	- 6° 99	- 1° 88	- 0° 13	....	....
*Number of days of snow.....	12	12	12	1	0	....	....
Number of fair days.....	11	11	13	18	23	21	17
Number of days completely clouded..	9	4	3	7	2	0	0
Number of auroras observed.....	0	3	2	0	1	0	0
Possible to see aurora (No. of nights)	11	13	19	17	22	22	11
Number of thunder storms.....	0	0	0	0	2	5	7
Number of fogs.....	1	0	1	1	5	1	2
Number of hours of bright sunshine..	83° 6	119° 0	199° 1	200° 1	261° 4	285° 5	242° 3
Number of hours of possible sunshine.	28° 7	291° 4	369° 9	406° 5	461° 1	465° 7	470° 9

\* In this table only the days of rain or

## REGISTER FOR THE YEAR 1895.

TORONTO, ONTARIO.

above Lake Ontario, 108 feet. Elevation above the Sea, 350 feet.

AUG.	SEPT.	OCT.	NOV.	DEC.	1895.	1894.	1893.	1892.	1891.	1890.	1889.
65° 09 - 1° 17 - 3° 41	60° 63 + 2° 03 - 0° 87	43° 26 - 3° 16 - 10° 54	36° 69 + 0° 60 - 6° 51	29° 85 + 3° 57 - 6° 15	44° 28 + 0° 08 - 6° 74	46° 75 + 2° 55 - 4° 27	43° 53 - 0° 67 - 7° 49	44° 61 + 0° 41 - 6° 41	45° 87 + 1° 67 - 5° 15	45° 02 + 0° 82 - 6° 00	45° 44 + 1° 24 - 5° 58
84° 0 43° 2 40° 8 75° 59 56° 19 19° 40 26° 6	93° 1 36° 3 56° 8 70° 84 50° 52 29° 32 32° 9	65° 8 23° 2 42° 6 51° 13 35° 05 16° 08 24° 5	59° 2 13° 3 45° 9 43° 15 30° 58 12° 57 24° 1	53° 9 1° 4 52° 5 36° 01 23° 22 17° 26 26° 6	93° 4 - 21° 2 14° 4 ..... ..... 17° 26 36° 9	90° 7 - 9° 9 100° 6 ..... ..... 16° 27 34° 3	93° 3 - 17° 8 111° 1 ..... ..... 17° 15 36° 3	93° 5 - 10° 2 103° 7 ..... ..... 15° 58 38° 6	91° 9 - 2° 0 93° 9 ..... ..... 16° 45 37° 8	89° 4 - 2° 7 92° 1 ..... ..... 16° 22 36° 0	88° 7 - 11° 3 100° 0 ..... ..... 15° 55 42° 8
29° 5422 - 0° 0772	29° 6248 - 0° 0423	29° 5993 - 0° 0443	29° 7202 + 0° 0985	29° 6392 - 0° 0111	29° 6171 - 0° 0019	29° 6246 + 0° 0056	29° 5996 - 0° 0194	29° 6325 + 0° 0135	29° 6385 + 0° 0195	29° 6313 + 0° 0123	29° 6177 - 0° 0013
29° 825 29° 259 0° 575	29° 979 29° 244 0° 735	30° 118 29° 102 1° 016	30° 127 28° 820 1° 307	30° 198 28° 775 1° 423	30° 240 28° 746 1° 494	30° 516 29° 035 1° 481	30° 467 28° 227 2° 240	30° 356 28° 84 1° 510	31° 266 28° 536 1° 739	30° 334 28° 762 1° 572	30° 365 28° 582 1° 783
75 + 1	75 - 2	72 - 7	83 + 3	84 + 2	75 - 2	76 - 1	77 0	77 0	75 - 2	78 + 1	77 0
0° 464 56° 9	0° 409 53° 4	0° 205 35° 1	0° 185 32° 6	0° 153 28° 0	0° 253 41° 3	0° 277 42° 9	0° 262 41° 5	0° 272 42° 5	0° 267 42° 0	0° 272 42° 5	0° 271 42° 4
0° 46 - 0° 04	0° 45 - 0° 05	0° 56 - 0° 06	0° 74 - 0° 01	0° 80 + 0° 04	0° 57 - 0° 04	0° 60 - 0° 01	0° 59 - 0° 02	0° 61 0° 00	0° 59 - 0° 02	0° 62 + 0° 01	0° 63 + 0° 02
S 64° W 0° 55 2° 72	S 61° W 0° 76 3° 70	S 49° W 2° 34 5° 52	S 48° W 0° 79 5° 52	S 36° W 1° 08 6° 26	S 78° W 1° 36 5° 60	N 78° W 1° 10 5° 67	N 66° W 1° 95 8° 59	N 54° W 1° 81 8° 17	N 53° W 1° 63 7° 33	N 48° W 1° 80 9° 19	N 63° W 2° 04 9° 08
3° 010 + 0° 141 13	2° 450 - 0° 840 9	0° 865 - 1° 521 8	4° 055 + 1° 414 11	3° 690 - 2° 131 13	22° 531 - 4° 873 101	25° 785 - 1° 619 114	31° 145 + 3° 741 105	25° 285 - 2° 119 119	26° 735 - 0° 669 108	32° 110 + 4° 706 119	24° 575 - 2° 829 104
..... ..... .....	..... ..... .....	1° 7 + 1° 04 4	2° 1 - 2° 52 4	5° 2 - 8° 78 3	54° 8 - 13° 74 48	37° 8 - 30° 74 32	85° 7 + 27° 16 64	42° 2 - 26° 34 43	47° 8 - 20° 74 50	52° 6 - 15° 94 52	66° 5 - 2° 04 45
18 0	17 1	20 5	15 6	12 11	196 48	179 43	156 50	165 57	193 60	159 68	187 79
0 22	1 20	2 20	2 10	0 8	11 195	23 199	18 208	33 195	18 212	7 186	6 169
5 6	4 6	0 2	0 5	0 3	23 33	36 30	41 31	40 36	19 38	21 43	21 34
236° 5 434° 5	208° 9 376° 3	162° 9 340° 2	93° 8 286° 9	57° 6 274° 3	2150° 7 4463° 3	2017° 7 4463° 3	2052° 4 4463° 3	2054° 4 4474° 4	2065° 4 4463° 3	1977° 6 4463° 3	1909° 2 446° 3

Snow when 0° 01 in fell are reckoned.

## TEMPERATURE.

	1895.	Average of 55 years.	EXTREMES.	
	°	°	°	°
Average temperature of the year.....	44° 28	44° 20	47° 09 in 1878	40° 77 in 1873
Warmest month .....	June	July	July, 1865	Aug., 1860
Average temperature of the warmest month...	67° 90	67° 64	75° 80	64° 46
Coldest month.....	February	January	Feb., 1875	Feb., 1848
Average temperature of the coldest month....	16° 85	22° 44	10° 16	26° 00
Difference between the temperature of the warmest and coldest month .....	51° 05	45° 20	.....	.....
Average of deviations of monthly means from their respective averages of 55 years, signs of deviations being disregarded.....	2° 85	2° 71	3° 62	.....
Month of greatest deviation without regard to sign.....	February	January	Feb., 1875	.....
Corresponding magnitude of deviation.....	5° 74	4° 11	12° 53	.....
Warmest day.....	2 June	.....	July 14, '68	July 31, '44
Average temperature of the warmest day.....	80° 90	77° 73	84° 50	72° 75
Coldest day.....	6 Feb.	.....	Feb. 6, 1855 Jan. 22, '59	Dec. 22, '42
Average temperature of the coldest day.....	-10° 77	-2° 08	-14° 33	9° 57
Date of the highest temperature.....	30 May	.....	Aug. 24, '54	Aug. 19, '40
Highest temperature .....	93° 4	90° 92	99° 2	82° 4
Date of lowest temperature.....	6 Feb.	.....	Jan. 10, '59	Jan. 2, 1842
Lowest temperature.....	-21° 2	-12° 12	-26° 5	1° 9
Range of the year.....	114° 6	103° 04	118° 2	87° 0

## BAROMETER.

	1895.	Average of 54 years.	EXTREMES.	
Average pressure of the year.....	29° 6171	29° 6190	{ 29° 6779 in 1849	29° 5602 in 1864
Month of the highest average pressure.....	Novem.	Sept.	Jan., 1849	June, 1864
Highest monthly average pressure.....	29° 7202	29° 6671	29° 8046	29° 6525
Month of the lowest average pressure.....	August	June	March, 1859	Nov., 1859
Lowest monthly average pressure.....	29° 5422	29° 5696	29° 4143	29° 5885
Date of the highest pressure in the year.....	11 April	.....	Jan. 8, 1866	Mar. 7, 1878
Highest pressure.....	30° 240	30° 365	30° 940	30° 139
Date of the lowest pressure in the year.....	21 Feb'y	.....	Jan. 2, 1877	June 2, 1894
Lowest pressure .....	28° 746	28° 697	28° 166	29° 035
Range for the year.....	1° 494	1° 668	{ 2° 240 in 1893.	1° 303 in 1845

## RELATIVE HUMIDITY.

	1895.	Average of 54 years.	Extremes.	
Average humidity of the year.....	75	77	82 in 1851	73 in 1858
Month of greatest humidity.....	Decem.	January	Jan., 1857	Dec., 1858
Greatest average monthly humidity.....	84	83	89	81
Month of least humidity .....	{ Apr., June & July	{ May	Feb., 1843	April, 1849
Least average monthly humidity.....	67	70	58	76

## EXTENT OF SKY CLOUDED.

	1895.	Average of 42 years.	EXTREMES.	
Average cloudiness of the year.....	0.57	0.61	0.66 in '69 '76	0.57 in 1856
Most cloudy month .....	Dec.	Dec.	.....	.....
Greatest monthly average of cloudiness.....	0.80	0.76	0.89	0.73
Least cloudy month.....	June.	July.	.....	.....
Least monthly average of cloudiness.....	0.38	0.49	0.29	0.50

## WIND.

	1895	Average of 17 years.	EXTREMES.	
Resultant direction.....	S. 78° W.	N. 61° W.		
Resultant velocity in miles.....	1.36	2.51	.....	.....
Average velocity without regard to direction..	5.60	9.64	.....	.....
Month of greatest average velocity.....	January.	March	10.54 in '80	8.32 in '78
Greatest monthly average velocity.....	8.10	11.49	April, '80	Dec. 1875
Month of least average velocity.....	August	July	13.88	10.42
Least monthly average velocity.....	2.72	7.56	July, '78	July, 1881
Day of greatest average velocity.....	Jan'y 27	.....	5.93	8.43
Greatest daily average velocity.....	40.87	28.98	Nov. 17 '70	Feb. 10, '85
Day of least average velocity.....	Aug. 9	.....	41.67	22.74
Least daily average velocity.....	0.67	.....	.....	.....
Hour of greatest absolute velocity.....	Dec. 31 8 to 9 a.m.	.....	April 20th, 8 to 9 a.m.	Jan. 17, '85 10 to 11 a.m.
Greatest velocity.....	64.0	45.67	60.0	39.0

NOTE.—During the year 1895, the wind has been obtained from the records of the anemograph at the observatory at a lesser elevation than formerly, and no comparison has been made with the result of former years. The extremes are from the Island anemograph.

## RAIN.

	1895.	Average of 55 years.	EXTREMES.	
Total depth of rain in inches.....	22.531	27.404	43.555 in '43	17.574 in '74
Number of days on which rain fell.....	113	114	145 in 1890	80 in 1811
Month on which the greatest depth of rain fell..	Nov.	Sept.	Sept., 1813	June, 1887
Greatest depth of rain in one month.....	4.055	3.290	9.700	2.655
Month in which the days of rain were most frequent.....	July.	Oct.	{ Jan., '69 { Oct., '90	{ May, 1841
Greatest number of rainy days in one month...	14	13	23	11
Day on which the greatest amount of rain fell..	Nov. 25	.....	Sept. 14, '43	Sept. 14, '48
Greatest amount of rain in one day.....	1.180	1.937	3.455	1.000

## SNOW.

	1895.	Average of 52 years.	EXTREMES.	
Total depth of snow in inches.....	54.8	68.5	122.9 in '70.	34.6 in '88.
Number of days on which snow fell.....	76	66	87 in 1859.	33 in '48.
Month in which the greatest depth of snow fell	Jan.	January.	March, '70.	Dec., 1851.
Greatest depth of snow in one month.....	35.8	17.0	62.4	10.7
Month in which the days of snow were most } frequent.....	Jan.	January.	Dec., 1872.	Feb., 1848.
Greatest number of days of snow in one month.	20	15	24	8
Day in which the greatest amount of snow } fell.....	18th Jan.	—	Feb. 5, '63.	4.6 Jan '88
Greatest fall of snow in one day .....	10.5	8.9	Mar. 27, '70.	3.0

## SUNSHINE.

	1895.	Average 1882 to 1894.
Total duration of bright sunshine in hours.....	2150.7	2029.3
Ratio to possible amount .....	0.48	0.45
Month of greatest relative amount.....	June.	July.
Ratio to possible amount.....	0.61	0.61
Month of least relative amount.....	December.	December.
Ratio to possible amount .....	0.21	0.19
Number of days completely clouded .....	48	67
Day of greatest relative amount.....	October 19.	—
Ratio to possible amount.....	0.96	0.91

DIFFERENCES OF CERTAIN METEOROLOGICAL ELEMENTS FOR 1895 FROM  
THE NORMAL VALUES FOR EACH QUARTER AND YEAR.

	Bar.	Tem.	Rain.	Days Rain.	Snow.	Days Snow.	Cloud- ed Sky.
	in.	°	in.				p.c.
Winter.....	— .0143	— 3.62	— 2.038	— 5.24	— 1.47	+ 13.65	— 0.07
Spring.....	+ .0259	+ 3.77	— 3.674	— 6.43	— 2.01	— 1.00	— 0.11
Summer.....	— .0439	— 0.18	— 1.185	+ 6.24	—	—	+ 0.04
Autumn.....	+ .0144	— 0.34	+ 2.024	+ 4.48	— 10.26	— 2.95	— 0.03
Year.....	— .0019	+ 0.08	— 4.873	— 1.15	— 13.74	+ 9.70	— 0.04

## PERIODICAL OR OCCASIONAL EVENTS, 1895.

January.....	16	Very brilliant display of solar halos and parhelia.
February....	6	Coldest day of season, mean temperature $10^{\circ}8$ below zero, coldest day since 22nd January, 1857.
	10	Robins about.
March.....	11	Hawks, 22nd Geese flying N. 23rd, Robins numerous. 30th, Woodpecker.
April.....	3	Bronze grackles. 5th, Grey Birds. 5th, Bluebirds. 6th, Day clear.
	6	Juncos, Golden Crowned Kinglet, Crocus in bloom.
	9	Earth Worms above ground. 10th, Kingfisher seen. 12th, Butterflies.
	13	Meadow Larks, Frogs piping. 17th, Woodpeckers numerous.
	18	Butterflies numerous. 19th, Hepatica in bloom; Trailing Arbutus in bloom.
	20	Swallows seen; Reed Birds; Phœbes.
	21	Humble Bees. 23rd, Chipping sparrow.
	25	Hard Maple in bloom.
May.....	1	Brown Thrashers seen.
	2	Trillium in bloom, White Butterflies, White Throated Sparrows.
	3	Sand Piper, Baltimore Orioles. 4th, Wilson's Thrush, Grasshoppers.
	5	Bobolinks seen, Maple, Mountain Ash, Horse chestnut and Elm in leaf.
	6	Cherry in bloom, Kingfisher and Night Hawks seen.
	7	First thunder of year. 11th, Japonica and Plum in bloom.
	12	Apple and Pear in bloom. 18th, great migration of birds at night.
	14	Last snow of season.
	20	Cherry Birds and Scarlet Tanager seen.
	22	Last Frost. Last Ice, $\frac{1}{2}$ in. thick.
	30	Highest temperature of year, $93^{\circ}4$ in Shade $110^{\circ}$ in Sun.
September ...	2	Blackbirds. 12th, Swallow last seen.
	26	Last Thunder Storm of year. 28th, First Frost, Oct. 2nd, Phœbe seen.
October.....	13	First ice. 19th, First Snow (measurable).
November....	26	Heavy Storm of Wind and Rain 59 miles from 9 to 10 A.M. 30th, Meadow Lark.
December.....	2	Don Frozen. 5th, Sleighs running.
	8	Bay frozen over. Open again on 22nd.
	31	Severe Storm of Wind 64 miles from 8 to 9 A.M., average exceeded 54 miles for several hours.

